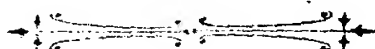
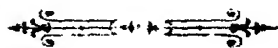


U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU



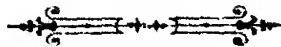
MONTHLY BULLETIN OF THE
Oklahoma Weather Service

FOR
MARCH, 1893.



JAS. I. WIDMEYER,
OBSERVER,
WEATHER BUREAU,
DIRECTOR.

A. V. RANDALL,
WEATHER BUREAU,
ASSISTANT.



CENTRAL OFFICE
OKLAHOMA CITY, O. T.

STATIONS OF THE OKLAHOMA WEATHER SERVICE.

STATIONS.	COUNTY.	Elevation.	Latitude.	Longitude.	Names of observers.
Anadarko.....	Kiowa Country .....	.....	35° 8'	97 15	C. A. Cleveland.
Buffalo	Cherokee Country .....	.....	36 50	99 30	A. R. Henderson.
Burnett.....	Pottawatomie	1200	35 10	97 10	Wm. Wesselhoft.
Fort Reno.....	Canadian County	1400	35 35	98 1	Surgeon, U. S. A.
Fort Sill.....	Comanche Country	1200	34 40	98 25	Surgeon, U. S. A.
Fort Supply	Cherokee Country	2300	36 33	99 34	Surgeon, U. S. A.
Gate City	Beaver	3000	36 52	99 59	S. C. Grasham.
Gwenddale.....	Cherokee Nation .....	.....	36 30	.....	J. E. Wolfe.
Guthrie.....	Logan	947	36 00	97 26	Morris Collar.
Healdton.....	Chickasaw Nation .....	.....	34 15	97 25	C. H. Heald.
Keokuk Falls.....	Pottawatomie.....	.....	35 25	96 40	Perry Rodkey.
Lehigh.....	Choctaw Nation	936	34 56	96 10	B. S. Thompson.
Mangum	Greer.....	1600	34 48	99 32	H. C. Sweet.
Oklahoma City....	Oklahoma.....	1239	35 26	97 33	J. I. Wilkeyer.
Pauls Valley	Chickasaw Nation .....	.....	34 56	97 10	W. L. Shultz
Ponca	Cherokee Nation .....	.....	36 35	97 1	Gertrude Sherburn.
Purcell	Chickasaw Nation .....	.....	35 06	97 16	Ignatius Spitzer.
Sallisaw	Cherokee Nation .....	.....	35 30	94 3	A. W. Bright
Sac & Fox Agency	Lincoln .....	.....	35 40	96 40	Cosette Stratton.
Stillwater	Payne County .....	.....	36 10	97 5	J. . . Neal.
Eufaula.....	Creek Nation.....	.....	.....	.....	J. D. Bickley.
South McAlistar..	Choctaw Nation... ..	698	.....	.....	Wm. Noble.
Tulsa.....	Creek Nation.....	.....	36 10	96 0	J. M. Hall.
Winnview.....	Blaine .....	.....	.....	.....	J. M. Rice.....

Director.

General rain occurred only on two days, 7th and 22nd.

WIND.

The average wind velocity of March is higher than that of any other month in the year, and March 1893 surpassed any previous month for which we have a record. The total velocity was 9,371 miles; average daily velocity 302 miles; average hourly velocity 13 miles; extreme velocity 60 miles from southwest on evening of 22nd.

Total wind measured at Stillwater 12,741, an average of 17 miles per hour. Greatest number on any day 694 miles on 22nd, an average of 29 miles per hour. Prevailing direction of wind was from the south. There were on an average 20 clear days, 8 partly cloudy, 3 cloudy and 2 rainy days.

Killing frost in 1891 occurred on April 3, 4, and 5, in 1892 on April 9th. From records of the Chief Office running back to 1872, on killing frost occurs after April 15th and rarely after April 10.

CYCLONE.

A cyclone passed from the southwest to northeast over Oklahoma county through Oklahoma City on the evening of the 22nd at 10 p. m. (75 Mer. time).

The appearance of this cyclone as it approached the city was that of a black cloud funnel shaped, small end toward the earth, it was whirling round same direction as the hands on a clock and was accompanied by a grinding noise. At times the end of the cloud would descend to the ground and then lift itself above the house tops, it took a zig zag course through the city and the small end was whisking back and forth like a woman swinging a broom. One house in its path was turned upside down and lay on its roof, others were twisted out of shape, several completely demolished and many barns and outhouses torn to pieces. Considerable debris was scattered around on the south side of the storm's path while on the north side but little effect could be noticed. The storm was immediately succeeded by thunder, lightning and heavy rain. The damage done by the storm was estimated as \$15,000.

MISCELLANEOUS PHENOMENA.

A destructive hail storm occurred in the western portion of Oklahoma county, counties I, Kingfisher, Canadian and parts of Logan and Payne on evening of the 22nd, breaking glass in houses and doing considerable damage to fruit trees, no crops were in condition to be hurt.

Thunder storms occurred at Gwenndale on 2nd and 23rd, Anadarko, Burnett, Ft. Reno, Oklahoma City on 22nd at Purcell on 23 and Ft. Reno on 25th.

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OBSERVERS REMARKS.

SOUTH MCALISTER, I. T.—A very pleasant month, plenty of rain but not too much. Weather cool and pleasant WM. NOBLE.

LEHIGH, I. T.—A very dry month and the high hot south winds added to the intensity of the dryness, grass and all vegetation backward. B. S. THOMPSON.

GWENNDALÉ, O. T.—On March 2nd we had our first spring shower, and thunder storm with some hail. During the night following the wind changed and rain continued until about noon, when it began snowing and the weather turned very cold with north wind. A very sudden and severe thunder storm with heavy rain occurred on 22nd. J. E. WOLFE.

CONDITION OF CROPS.

At the close of the month winter wheat shows up splendidly, fields are looking green, growing nicely. The stand is good. Wheat planted with drill generally looks much better than that sown broadcast.

A great deal of oats has been sown, which is coming up nicely with excellent promise.

Some corn has been planted, and farmers are busy preparing the ground for this and other spring crops.

The American Association of State Weather services will meet in Chicago this year, probably about the middle or sometime in August. All the observers of the Oklahoma Weather service are members of this body. Those of our observers intending to visit the Worlds fair, will find it interesting to attend this meeting. It is our intention to attend this meeting and incidentally take in the fair, and we should be pleased to have the company of any and all our observers who intend going to Chicago at that time. We are somewhat acquainted with the city, have quarters engaged and we will see that all who go with us are taken care of, and provided with such comforts, as secured for ourself.

Wind is recognized as being the great purifier, scattering and diffusing throughout space the poisonous exhalations from animal life, and the noxious gasses of combustion and decaying matter. Stagnant, air, like a sluggish stream, becomes unfit to sustain life.

The cold waves that swept over our territory during the past winter

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and the high winds of this month—March—has certainly given our atmosphere a complete stirring and the good effects of which are now experienced. There is but little or no sickness in the territory and the M. D's are seriously thinking of seeking other fields to successfully carry on their labors of love.

FINIS.

MONTHLY MISCELLANEOUS DATA.--- MARCH, 1893.

STATIONS	TEMPERATURE (--- DRY BULB ---) GRADES FAHR										Precipitation in inches.		Prevailing dir'n of wind	No. rainy days (of inch or more)	No. of cloudless days	No. of partly cl'v days	No. of cloudy days	Hail storms.	Thunder storms	
	Yearly mean.	EXTR. MES					Monthly range.	No. times temperature		Monthly melted snow.	Greatest amount in any 24 hours	Date.								
		Max.	Date.	Mean max.	Min.	Date.		90 degs or above	32 degs or below											
Ana larko.....	52.5	90	31	68.9	10	4	36-1	80	1	12	1.85	.95	22	S	3	16	11	4	1	1
Buffalo.....	50.4	84	22	64.0	13	4	36.8	71	0	12	1.18	.97	7	S	2	16	14	1		1
Burnet.....	48.8	77	23	64.6	9	4	33.0	68	0	11	1.90	1.20	22	SW	3	20	5	6		2
Fort Reno.....	48.2	87	21	60.9	12	5	35.5	75	0	9	.25	.20	7	S	1	27	3	1		
Fort Sill.....	46.5	95	31	65.3	5	3	27.3	90	2	18	1.36	.70	7	S	3	26	3	2		
Fort Supply.....	48.8	94	31	67.7	10	18	29.2	84	2		.03	.03	7	SW	1	14	12	5		
Gate City.....	53.7	85	31	69.5	12	4	37.9	81	0	9	2.14	1.12	22	S	2	21	6	4		
Guthrie.....	46.2	78	22	58.2	12	4	34.3	66	0	16	2.81	1.26	8	SW	5	17	11	3	1	2
Gwenddale.....																				
Healdton.....																				
Keokuk Falls.....	48.1	83	22	61.9	12	4	34.3	71	0	13	1.80	.90	23	S	2	26	5	0		
Lehigh.....†	55.6	83	22	66.1	21	18	45.0	62	0	5	2.08	1.16	7	S	3	22	0	9		
Mangum.....	52.0	93	31	68.8	13	4	35.3	80	1	9	.55	.55	7	SW	1	25	4	2		
Oklahoma City.....	53.2	84	21	62.7	9	14	37.6	75	0	8	1.25	.77	7	S	4	23	7	1		1
Pauls Valley.....																				
Ponca.....													7							
Purell.....	55.8	96	31	72.9	11	4	38.8	85	2	8	1.33	.88		S	2	21	8	2		1
Sallisaw.....																				
Sac & Fox Agency.....	47.8	84	22	65.5	12	4	32.1	72	0	18	1.75	1.05	7	S	2	16	12	3		
South McAllister.....	53.6	84	23	66.7	18	4	40.4	66	0	8	2.12	1.28	7	S	2	16	7	8		
Stillwater.....	48.6	85	21	62.4	11	4	34.8	74	0	12	1.43	1.43	22	S	1	13	16	2		
Winnview.....	51.0	85	31	65.1	8	4	36.9	77	0	10	1.10	.98	7	S	3	20	8	3		

† Dry Thermometer at 7 a. m. for Minimum Temperature. k for 23 days, b for 29 days

TABLE OF DAILY AND MONTHLY PRECIPITATION.

STATIONS	MARCH, 1893.																															Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Anadarko.....							.65															.95			.25							1.85
Buffalo.....																																....
Burnett.....							.79															.39			T							1.18
Fort Reno.....							.50															1.20			.20							1.90
Fort Sill.....							.70															.51		.15								1.86
Fort Supply.....							.20																									.20
Gate City.....							.03																									.03
Guthrie.....	T						1.02															1.12										2.14
Hammond.....		.22	.30					1.26										T				.88				.15						2.81
Healdton.....																																....
Kearney Falls.....						.90																	.90									1.80
Lehigh.....							1.16																	.26		.66						2.08
Mangum.....							.55																		T							.55
Oklahoma City.....							.77	T															.48			T						1.25
Paris Valley.....																																....
Ponca.....																																....
Purcell.....							.88																.45									1.53
Sac & Fox Agency.....							.06															.70										1.75
South McAlester.....							1.78																.61									2.12
Stillwater.....																						1.43										1.43
Tulsa.....						.39																.30										1.57
Winnipeg.....						.98																.12			T	T						1.10

T Indicates trace of precipitation.